Remarks

Claims 4-14 and 16-30 are currently pending. The Examiner is thanked for granting an interview with the Applicants' representative. Independent Claims 16 and 17 have been amended in accordance with the interview. Support for these claim amendments may be found, for example, at pg. 7, first paragraph under the heading: "(1) Detection of drift transitions in non-stationary time series", and pg. 20 first two paragraphs. The Applicants submit that no new matter was added by these amendments and respectfully request entry into the Official Record.

The Applicants acknowledge the rejection of Claims 4-14 and 16-30 under 35 U.S.C. §101 as being directed to subject matter that does not produce a tangible result. In view of the amendments to independent Claims 16 and 17, the Applicants submit that these grounds are not moot, and respectfully request reconsideration and withdraw of this grounds of rejection.

Claim 16, as amended, is directed to a method of determining a subsequent state (y) of a dynamic system by deriving a system model and then applying the system model to a current detected system mode. To that end, the method of Claim 16 recites generally, performing a switch segmentation of at least one system variable x(t) of a dynamic system; performing a drift segmentation subsequent to the switch segmentation step in order to derive a system model; detecting a current system mode that corresponds to a current system state; and applying the derived system model to the current system mode to determine a system state that directly follows the current system state.

As described in the specification, the step of switch segmentation serves to determine characteristics of the modes of a dynamic system. [see pg. 7, first sentence under heading "(i) Step 1 (Switch Segmentation)]. The drift segmentation step serves to model the paths or transitions between system modes [see pg. 15, third full paragraph]. By performing the switch segmentation

step followed by the drift segmentation step, a system model indicative of the dynamic system's modes and transitions (between modes) may be derived. The Applicants submit that this resultant system model is a tangible and useful result, as required by 35 U.S.C. §101.

Once the system model is derived, a current system mode that corresponds to a current system state is detected. The current system mode and corresponding system state may be derived, for example, by observing and preceding knowledge of the dynamic system.[see pg. 20, first full paragraph].

The previously derived system model is then applied to the current system mode to determine a system state that directly follows the current system state. As can be appreciated by those in the art, determining a subsequent system state represent a tangible and useful result, particularly in a dynamic system.

The Applicants note with appreciation that use of the word "predicting" in the claims raised some concerns with the Examiner. The Applicants respectfully direct the Examiner to pg. 20, first paragraph, wherein the Applicants explain that the word "predicting" is descriptive of the tangible step of applying a system [model] to a momentary (i.e., current) system state [of a dynamic system] in order to determine the system state that directly follows the current system state.

In view of the foregoing, the Applicants submit that Claim 16, and all claims that depend thereon, is fully patentable in view of the requirements of 35 U.S.C. §101 insofar as Claim 16 results in a useful, concrete, and tangible result, namely, the determination of a subsequent system state. Accordingly, reconsideration and withdraw of this grounds of rejection is respectfully requested.

Claim 17 has also been amended in accordance with the interview between the Examiner and the Applicants' representative (Mar. 1, 2007), and is directed to a method for "controlling" a dynamic system. As explained in the specification, the word "control" in the context of this

Application is indicative of determining a <u>deviation value</u> of a current system state, and then using the deviation value to derive a strategy for managing the dynamic system. [see pg. 20, first paragraph].

As amended, Claim 17 recites (among other features), deriving a system model that represents a dynamic system by performing a switch segmentation followed by a performing a drift segmentation. The Applicants submit that this system model represents a useful and tangible result, in accordance with 35 U.S.C. §101.

The derived system model is then used to determine a deviation of a current system state. As noted above, the determined deviation value may then be used to manage the dynamic system (via a derived "control strategy"). The Applicants submit that the current state deviation value and the control strategy derived therefrom are both useful and tangible results, as required by 35 U.S.C. §101. Indeed, the Examiner has already indicated that as amended, Claim 17 is likely to overcome the outstanding rejections. Thus, the Applicants submit that Claim 17, and all claims that depend thereon, are fully patentable in view of 35 U.S.C. §101, and respectfully request reconsideration and withdraw of this grounds of rejection.

In view of the foregoing, the Applicants submit that the entire Application is now in condition for allowance, which is earnestly requested.

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Respectfully submitted,

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